

In the claims:

Please amend the claims as follows:

Claims 1-29 are withdrawn.

30. (original) A method to assess the inhibitory activity of a test substance on a polypeptide having greater than or equal to 25% overall identity or greater than or equal to 30% overall similarity to SEQ ID NO:2, comprising: contacting the polypeptide with the test substance; and detecting the amount of carboxylate transported by the polypeptide in the presence and absence of the test substance; wherein inhibition of transport in the presence as compared to the absence of the test substance indicates that the test substance is a cellular transporter inhibitor.

31. (original) The method of claim 30 wherein the polypeptide comprises SEQ ID NO:2.

32. (currently amended) The method of claim 30 wherein the polypeptide is expressed in a *Xenopus* oocyte ~~comprising an Indy mRNA~~.

Claims 33-50 are withdrawn.

51. (new) A method for evaluating interaction of a test molecule with a transporter polypeptide, the method comprising:

providing a transporter polypeptide that comprises an amino acid sequence at least 85% identical to SEQ ID NO:2,

contacting the transporter polypeptide with a test molecule; and

evaluating interaction of the test molecule with the transporter polypeptide.

52. (new) A method for evaluating interaction of a test molecule with a transporter polypeptide, the method comprising:

providing a transporter polypeptide that comprises SEQ ID NO:2 or an active fragment of SEQ ID NO:2,

contacting the transporter polypeptide with a test molecule; and
evaluating interaction of the test molecule with the transporter polypeptide.

53. (new) The method of claim 51, wherein the transporter polypeptide comprises SEQ ID NO:2.

54. (new) The method of claim 51, wherein evaluating an interaction of the test molecule comprises evaluating the transport activity of the transporter polypeptide.

55. (new) The method of claim 52, wherein evaluating an interaction of the test molecule comprises evaluating the transport activity of the transporter polypeptide.

56. (new) The method of claim 51, wherein evaluating an interaction of the test molecule comprises evaluating binding to the transporter polypeptide.

57. (new) The method of claim 52, wherein evaluating an interaction of the test molecule comprises evaluating binding to the transporter polypeptide.

58. (new) The method of claim 51, wherein evaluating an interaction of the test molecule comprises evaluating the transport activity in the presence and absence of the test molecule, and an alteration in the transport activity in the presence as compared to the absence of the test substance indicates that the test substance is a modulator of the transporter polypeptide.

59. (new) The method of claim 51, wherein providing the transporter polypeptide comprises expressing the transporter polypeptide in a host cell such that the transporter polypeptide is present at the cell surface.

60. (new) The method of claim 52, wherein providing the transporter polypeptide comprises expressing the transporter polypeptide in a host cell such that the transporter polypeptide is present at the cell surface.

61. (new) The method of claim 51, wherein the transport activity of the transporter polypeptide is evaluated by assaying for the transport of a carboxylate.

62. (new) The method of claim 61, wherein the transport activity of the transporter polypeptide is evaluated by assaying for the transport of a carboxylate selected from the group consisting of succinate, alpha-ketoglutarate, fumarate, and citrate.

63. (new) The method of claim 62, wherein the transport activity of the transporter polypeptide is evaluated by assaying for the transport of succinate.

64. (new) The method of claim 59, wherein the host cell is a *Xenopus* oocyte.

65. (new) The method of claim 59, wherein the host cell is a mammalian cell.

66. (new) The method of claim 51, wherein the test molecule is selected from the group consisting of antibodies, peptides, nucleic acid molecules, and small organic molecules.

67. (new) The method of claim 51, further comprising contacting the test molecule to a cell and evaluating an aging symptom of the cell.

68. (new) A method of evaluating a library of compounds, the method comprising:
providing a transporter polypeptide that comprises an amino acid sequence at least 85% identical to SEQ ID NO:2;

providing a library of chemical compounds; and
for each member of the library,

contacting the transporter polypeptide with a test molecule, and

evaluating interaction of the test molecule with the transporter polypeptide.

69. (new) The method of claim 68 further comprising selecting one or more members that stimulate the transporter polypeptide.

70. (new) The method of claim 68 further comprising selecting one or more members that inhibit the transporter polypeptide.

71. (new) The method of claim 68 further comprising contacting one or more members of the library to a cell, and evaluating an aging symptom of the cell.

72. (new) A method for evaluating a cell, the method comprising:
providing a cell that can express a transporter polypeptide that comprises an amino acid sequence at least 85% identical to SEQ ID NO:2,
contacting the transporter polypeptide to the cell; and
evaluating a transporter-related parameter the cell.

73. (new) The method of claim 72 wherein the transporter-related parameter of the cell is expression of an mRNA that encodes the transporter polypeptide.

74. (new) The method of claim 72 wherein the transporter-related parameter of the cell is transporter activity.

75. (new) The method of claim 72 wherein the transporter polypeptide comprises SEQ ID NO:2.

76. (new) The method of claim 72 wherein the contacting is in the presence of a substrate for the transporter polypeptide.

77. (new) The method of claim 76 wherein the substrate is a carboxylate.

78. (new) The method of claim 77 wherein the substrate is succinate
79. (new) The method of claim 76 wherein the substrate is labeled.
80. (new) The method of claim 72 wherein the transporter polypeptide is produced from a heterologous nucleic acid in the cell.
81. (new) The method of claim 30 wherein the polypeptide comprises an amino acid sequence selected from the group consisting of SEQ ID NO:3, 4, 5, or 6.
82. (new) The method of claim 81 wherein the polypeptide comprises SEQ ID NO:6.
83. (new) A method for evaluating interaction of a test molecule with a transporter polypeptide, the method comprising:
 providing a transporter polypeptide that comprises an amino acid sequence at least 25% identical to SEQ ID NO:2,
 contacting the transporter polypeptide with a test molecule;
 evaluating interaction of the test molecule with the transporter polypeptide;
 contacting the test molecule to a cell; and
 evaluating an aging symptom of the cell.
84. (new) The method of claim 83 wherein the transporter polypeptide comprises a sequence that is selected from the group consisting of SEQ ID NO:3, 4, 5, and 6.